PATENT
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S):	Dahlbäck et al.		
SERIAL NO.:	Divisional of 08/500,917	GROUP NO.:	Not assigned
FILING DATE:	Herewith	EXAMINER:	Not assigned
TITLE:	NOVEL ANTICOAGULANT COFACTOR ACTIVITY		

Box Patent Application
Assistant Commissioner for patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Sir:

This application is a divisional application of USSN 08/500,917, filed January 28, 1994.

PRELIMINARY AMENDMENT

Prior to substantive examination, please amend the application as follows.

In the Specification:

On page 1, immediately after the title insert the following paragraph:

-- This application is a divisional of USSN 08/500,917, filed January 28, 1994.--

In the Claims:

Please cancel claims 1-39, and 43. Please amend claims 40, 41 and 42 as follows. Please add new claims 44-52.

40. (Amended) A method for determining if an individual has a predisposition to develop thrombosis due to inherited APC-resistance caused by a gene mutation, said method comprising the step of:

detecting in a cell sample from the individual the occurrence of a Factor V gene mutation;

wherein the mutation gives rise to the expression of a mutated Factor V/Va molecule, which expression is associated with the expression of APC-resistance and a predisposition to develop thrombosis.

41. (Amended) The method of claim 40, wherein the mutation is detected as an abnormal absence or presence of a nucleic acid fragment or abnormal sequence in the Factor V gene, wherein the mutation is detected using nucleic acid hybridization.

42. (Amended) The method of claim 40, wherein the mutation is determined indirectly based on linkage thereof to a neutral polymorphism in the Factor V gene.

--44. (New) The method of claim 40, wherein the Factor V gene mutation is detected as an abnormal absence or presence of a nucleic acid fragment or abnormal sequence caused by the mutation, wherein the Factor V gene mutation is detected using nucleic acid sequencing.

45. (New) The method of claim 40, wherein the Factor V gene mutation is detected as an abnormal absence or presence of a nucleic acid fragment or abnormal sequence caused by the mutation, wherein the Factor V gene mutation is detected using an immunoassay.

46. (New) A method for detecting a predisposition to developing thrombosis in an individual, said method comprising determining the presence in the individual's Factor V gene sequence of at least one mutation and comparing the individual's Factor V gene sequence to a normal Factor V gene sequence.

47. (New) A method for detecting a predisposition to developing thrombosis in an individual, said method comprising the steps of:

obtaining a cell sample from the individual; and

determining the presence of at least one Factor V gene mutation in the individual, wherein the presence of the Factor V gene mutation is indicative of an increased risk of thrombosis.

48. (New) A method for detecting APC-resistance in an individual comprising the steps of:

obtaining a DNA sample from the individual; and

determining the presence of at least one Factor V gene mutation in the individual, wherein the presence of the Factor V gene mutation is indicative of an increased risk of thrombosis.

49. (New) The method of claim 46, 47 or 48, wherein the Factor V gene mutation is a neutral polymorphism.

50. (New) The method of claim 46, 47 or 48, wherein said determining step comprises sequencing the Factor V gene.

51. (New) The method of claim 46, 47 or 48, wherein said determining step comprises nucleic acid hybridization to a reagent specific for a normal Factor V gene.

52. (New) The method of claim 46, 47 or 48, wherein said determining step comprises nucleic acid hybridization to a reagent specific for a Factor V gene that comprises at least one mutation associated with APC-resistance.--

REMARKS

Claims 1-39 and 43 have been canceled. New claims 44-52 have been added. Upon entry of this paper, claims 40-42, 44-52 will be pending in this application. Basis

for new claims 44-52 may be found, for example, in claims 40, 41 and 42 as originally filed and on page 20, lines 7-23. Applicant believes that no new matter has been introduced by the new claims. Early favorable action is respectfully solicited.

Respectfully submitted,

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MARKED UP VERSION OF CLAIMS AS AMENDED

40. (Amended) [Method to determine for] A method for determining if an individual has a predisposition to develop thrombosis due to inherited APC-resistance caused by a gene mutation[mutation(s)], said method comprising the step of:

[determining for] detecting in a cell sample from the individual [occurence] the occurrence of a Factor V gene mutation [mutation(s), which mutation(s) is (are) located in one or more nucleic acid fragment(s) and/or sequences of the Factor V gene, said mutations giving];

wherein the mutation gives rise to the expression of a mutated Factor V/Va molecule, which expression is associated with the expression of APC-resistance and[, thus,] a predisposition to develop thrombosis.

41. (Amended) [Method] The method of claim 40, wherein the [said mutation(s) is (are) determined] mutation is detected as an abnormal absence or presence of a nucleic acid [fragment(s) and/or sequence(s)] fragment or abnormal sequence in the Factor V gene[caused by the said mutation(s)], wherein the mutation is detected using [current methods, such as methods based on] nucleic acid hybridization. [assays, nucleic acid sequencing, or immunoassays, being used.]

42. (Amended) [Method] The method of claim 40, wherein the [said mutation(s) is (are)] mutation is determined indirectly based on linkage thereof to a neutral polymorphism in the Factor V gene.

44. (New) The method of claim 40, wherein the Factor V gene mutation is detected as an abnormal absence or presence of a nucleic acid fragment or abnormal sequence caused by the mutation, wherein the Factor V gene mutation is detected using nucleic acid sequencing.

45. (New) The method of claim 40, wherein the Factor V gene mutation is detected as an abnormal absence or presence of a nucleic acid fragment or abnormal sequence caused by the mutation, wherein the Factor V gene mutation is detected using an immunoassay.

46. (New) A method for detecting a predisposition to developing thrombosis in an individual, said method comprising determining the presence in the individual's Factor V gene sequence of at least one mutation and comparing the individual's Factor V gene sequence to a normal Factor V gene sequence.

47. (New) A method for detecting a predisposition to developing thrombosis in an individual, said method comprising the steps of:

obtaining a cell sample from the individual; and

determining the presence of at least one Factor V gene mutation in the individual, wherein the presence of the Factor V gene mutation is indicative of an increased risk of thrombosis.

48. (New) A method for detecting APC-resistance in an individual comprising the steps of:

obtaining a DNA sample from the individual; and

determining the presence of at least one Factor V gene mutation in the individual, wherein the presence of the Factor V gene mutation is indicative of an increased risk of thrombosis.

49. The method of claim 46, 47 or 48, wherein the Factor V gene mutation is a neutral polymorphism.

50. The method of claim 46, 47 or 48, wherein said determining step comprises sequencing the Factor V gene.

51. The method of claim 46, 47 or 48, wherein said determining step comprises nucleic acid hybridization to a reagent specific for a normal Factor V gene.

52. The method of claim 46, 47 or 48, wherein said determining step comprises nucleic acid hybridization to a reagent specific for a Factor V gene that comprises at least one mutation associated with APC-resistance.

CLEAN COPY OF THE CLAIMS

40. (Amended) A method for determining if an individual has a predisposition to develop thrombosis due to inherited APC-resistance caused by a gene mutation, said method comprising the step of:

detecting in a cell sample from the individual the occurrence of a Factor V gene mutation;

wherein the mutation gives rise to the expression of a mutated Factor V/Va molecule, which expression is associated with the expression of APC-resistance and a predisposition to develop thrombosis.

41. (Amended) The method of claim 40, wherein the mutation is detected as an abnormal absence or presence of a nucleic acid fragment or abnormal sequence in the Factor V gene, wherein the mutation is detected using nucleic acid hybridization.

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52. (New) The method of claim 46, 47 or 48, wherein said determining step comprises nucleic acid hybridization to a reagent specific for a Factor V gene that comprises at least one mutation associated with APC-resistance.